

IN THE TITLE

Page 1, line 1: Please replace the present title with--  
~~SOLUBLE RECOMBINANT CLOSTRIDIUM BOTULINUM NEUROTOXINS--~~

IN THE CLAIMS:

Please cancel pending claims 10-14, 25-41 without prejudice.

Please add the following new claims:

42. (New) A soluble, recombinant *Clostridium* botulinum toxin.

43. (New) A soluble, recombinant *Clostridium* botulinum toxin type A.

44. (New) A soluble, recombinant *Clostridium* botulinum toxin type B.

45. (New) A soluble, recombinant *Clostridium* botulinum toxin types C<sub>1</sub>, D, E, F or G.

46. (New) A host cell containing a recombinant expression vector, the vector encoding at least a protein derived from the *Clostridium botulinum* toxin, wherein the host cell is capable of expressing the encoded *Clostridium botulinum* toxin protein in the host cell at a level greater than or equal to .75% of the total cellular protein.

47. (New) The host cell of claim 46 wherein the toxin is *Clostridium botulinum* toxin type A.

48. (New) The host cell of claim 46 wherein the protein comprises SEQ ID NO:28.

49. (New) The host cell of claim 46 wherein the toxin is *Clostridium botulinum* toxin type B.

50. (New) The host cell of claim 46 wherein the protein comprises a sequence selected from the group consisting of SEQ ID NO:40 and SEQ ID NO:42.

51. (New) The host cell of claim 46 wherein the toxin is *Clostridium botulinum* toxin types C<sub>1</sub>, D, E, F or G.

52. (New) The host cell of claim 46 wherein the protein sequence comprises a sequence selected from the group consisting of SEQ ID NO:40, SEQ ID NO:42, SEQ ID NO:60, SEQ ID NO:66, SEQ ID NO:50, SEQ ID NO:52, SEQ ID NO:71 and SEQ ID NO:77.

53. (New) The host cell of claim 46 wherein the protein comprises SEQ ID NO:26.

*P2* *Sub. G1* 54. (New) A soluble, recombinant protein comprising a portion of a *Clostridium botulinum* toxin.

*Cont* 55. (New) The soluble protein of claim 54 wherein the portion comprises a portion of a *Clostridium botulinum* type A toxin.

56. (New) The soluble protein of claim 55 wherein the *Clostridium botulinum* toxin comprises SEQ ID No:28.

57. (New) The soluble protein of claim 55 wherein the portion of a *Clostridium botulinum* toxin comprises SEQ ID NO:23.

58. (New) The soluble protein of claim 54 wherein the portion comprises a portion of a *Clostridium botulinum* type B toxin.

59. (New) The soluble protein of claim 58 wherein the *Clostridium botulinum* toxin comprises a sequence selected from the group consisting of SEQ ID NO:40 and SEQ ID NO:42.

60. (New) The soluble protein of claim 58 wherein the portion of a *Clostridium botulinum* toxin comprises a sequence selected from the group consisting of SEQ ID NO:44 and SEQ ID NO:46.

61. (New) The soluble protein of claim 54 wherein the portion comprises a portion of a toxin selected from the group consisting of *Clostridium botulinum* type C<sub>1</sub>, D, E, F and G toxin.

62. (New) The soluble protein of claim 61 wherein the *Clostridium botulinum* toxin comprises a sequence selected from the group consisting of SEQ ID NO:60, SEQ ID NO:66, SEQ ID NO:50, SEQ ID NO:52, SEQ ID NO:71 and SEQ ID NO:77.

63. (New) The soluble protein of claim 61 wherein the portion of the *Clostridium botulinum* toxin comprises a sequence selected from the group consisting of SEQ ID NO:62, SEQ ID NO:68, SEQ ID NO:54, SEQ ID NO:56, SEQ ID NO:73 and SEQ ID NO:79.

64. (New) The soluble protein of claim 54 is a soluble fusion protein further comprising a non-toxin protein sequence.

65. (New) The soluble protein of claim 64 comprising SEQ ID NO:26.

Sub. G-2  
F2  
Cont  
~~66. (New) A host cell containing a recombinant expression vector, the vector encoding a soluble protein comprising at least a portion of a *Clostridium botulinum* toxin.~~

67. (New) The host cell of claim 66 wherein the host cell is capable of expressing the encoded soluble protein in the host cell at a level greater than or equal to 0.75% of the total cellular protein.

68. (New) The host cell of claim 66 wherein the protein comprises at least a portion of a *Clostridium botulinum* type A toxin.

69. (New) The host cell of claim 66 wherein the protein comprises at least a portion of a *Clostridium botulinum* type B toxin.

70. (New) The host cell of claim 66 wherein the protein comprises at least a portion of a toxin selected from the group consisting of *Clostridium botulinum* type C<sub>1</sub>, D, E, F and G toxin.

71. (New) The host cell of claim 66 wherein the protein comprises at least a portion of SEQ ID NO:28.

72. (New) The host cell of claim 66 wherein the protein comprises at least a portion of a sequence selected from the group consisting of SEQ ID NO:40 and SEQ ID NO:42.

73. (New) The host cell of claim 66 wherein the protein comprises at least a portion of a sequence selected from the group consisting of SEQ ID NO:60, SEQ ID NO:66, SEQ ID NO:50, SEQ ID NO:52, SEQ ID NO:71 and SEQ ID NO:77.

74. (New) The host cell of claim 66 wherein the protein comprises at least a portion of SEQ ID NO:23.

75. (New) The host cell of claim 66 wherein the protein comprises at least a portion of a sequence selected from the group consisting of SEQ ID NO:44 and SEQ ID NO:46.

76. (New) The host cell of claim 66 wherein the protein comprises at least a portion of a sequence selected from the group consisting of SEQ ID NO:62, SEQ ID NO:68, SEQ ID NO:54, SEQ ID NO:56, SEQ ID NO:73 and SEQ ID NO:79.

77. (New) The host cell of claim 66 wherein the protein is a soluble fusion protein further comprising a non-toxin protein sequence.

78. (New) The host cell of claim 77, wherein the fusion protein comprises SEQ ID NO:26.

79. (New) A soluble fusion protein comprising a portion of a *Clostridium botulinum* toxin and a non-toxin protein sequence.

80. (New) The soluble fusion protein of claim 79 wherein the protein comprises a portion of a *Clostridium botulinum* toxin type A toxin.

81. (New) The soluble fusion protein of claim 79 wherein the protein comprises a portion of a *Clostridium botulinum* toxin type B toxin.

82. (New) The soluble fusion protein of claim 79 wherein the protein comprises a portion of a toxin selected from the group consisting of *Clostridium botulinum* toxin type C<sub>1</sub>, D, E, F and G toxin.

83. (New) The soluble fusion protein of claim 79 wherein the *Clostridium botulinum* toxin comprises SEQ ID NO:28.

84. (New) The soluble fusion protein of claim 79 wherein the *Clostridium botulinum* toxin comprises a sequence selected from the group consisting of SEQ ID NO:40 and SEQ ID NO:42.

85. (New) The soluble fusion protein of claim 79 wherein the *Clostridium botulinum* toxin comprises a sequence selected from the group consisting of SEQ ID NO:60, SEQ ID NO:66, SEQ ID NO:50, SEQ ID NO:52, SEQ ID NO:71 and SEQ ID NO:77.

86. (New) The soluble fusion protein of claim 79 wherein the portion of the *Clostridium botulinum* toxin comprises SEQ ID NO:23.

87. (New) The soluble fusion protein of claim 79 wherein the portion of the *Clostridium botulinum* toxin comprises a sequence selected from the group consisting of SEQ ID NO:44 and SEQ ID NO:46.

88. (New) The soluble fusion protein of claim 79 wherein the portion of the *Clostridium botulinum* toxin comprises a sequence selected from the group consisting of SEQ ID NO:62, SEQ ID NO:68, SEQ ID NO:54, SEQ ID NO:56, SEQ ID NO:73 and SEQ ID NO:79.

89. (New) The soluble fusion protein of claim 79 wherein the non-toxin protein sequence facilitates the purification of the fusion protein.

90. (New) The soluble fusion protein of claim 79 wherein the non-toxin protein sequence comprises a poly-histidine tract.

91. (New) The soluble fusion protein of claim 79 wherein the non-toxin protein assists in solubilizing the fusion protein.

92. (New) The soluble fusion protein of claim 79 comprising SEQ ID NO:26.

Sub. G3 ~~93. (New) A composition comprising a non-toxin protein sequence and a portion of a soluble, recombinant *Clostridium botulinum* toxin wherein the composition is substantially endotoxin-free.~~

94. (New) The composition of claim 93 wherein the portion of a *Clostridium botulinum* comprises a portion of *Clostridium botulinum* type A toxin.

95. (New) The composition of claim 93 wherein the portion of a *Clostridium botulinum* comprises a portion of *Clostridium botulinum* type B toxin.

96. (New) The composition of claim 93 wherein the portion of a *Clostridium botulinum* comprises a portion of a toxin selected from the group consisting of *Clostridium botulinum* type C<sub>1</sub>, D, E, F and G toxin.

Sub. G4 ~~97. (New) The composition of claim 93 wherein the *Clostridium botulinum* toxin comprises at least a portion of SEQ ID NO:28.~~

98. (New) The composition of claim 93 wherein the *Clostridium botulinum* toxin sequence comprises at least a

portion of a sequence selected from the group consisting of SEQ ID NO:40 and SEQ ID NO:42.

99. (New) The composition of claim 93 wherein the *Clostridium botulinum* toxin comprises at least a portion of a sequence selected from the group consisting of SEQ ID NO:60, SEQ ID NO:66, SEQ ID NO:50, SEQ ID NO:52, SEQ ID NO:71 and SEQ ID NO:77.

100. (New) The composition of claim 93 wherein the portion of a *Clostridium botulinum* toxin sequence comprises SEQ ID NO:23.

P2 101. (New) The composition of claim 93 wherein the portion of a *Clostridium botulinum* toxin sequence comprises a sequence selected from the group consisting of SEQ ID NO:44 and SEQ ID NO:46.

Conclude 102. (New) The composition of claim 93 wherein the portion of a *Clostridium botulinum* of toxin sequence comprises a sequence selected from the group consisting of SEQ ID NO:62, SEQ ID NO:68, SEQ ID NO:54, SEQ ID NO:56, SEQ ID NO:73 and SEQ ID NO:79.

103. (New) The composition of claim 93 wherein the non-toxin protein sequence facilitates the purification of the fusion protein.

104. (New) The composition of claim 93 wherein the non-toxin protein sequence comprises a poly-histidine tract.

105. (New) The composition of claim 93 wherein the non-toxin protein sequence assists in solubilizing the fusion protein.

106. (New) The composition of claim 93 comprising SEQ ID NO:26.

107. (New) The composition of claim 93 wherein the non-toxin protein sequence and the portion of the *Clostridium botulinum* toxin are covalently bound to each other.

108. (New) The composition of claim 93 wherein the non-toxin protein sequence and the portion of the *Clostridium botulinum* toxin are covalently bound to each other as parts of a recombinant fusion protein.

109. (New) The composition of claim 93 wherein the non-toxin protein sequence and the portion of the *Clostridium botulinum* toxin are covalently bound to each other as part of a conjugate.